



OPERATING INSTRUCTIONS FOR Manual 250mm Squeeze Off Unit

- 1. Machine to be operated by trained personnel.**
- 2. Instructions to be read before use.**

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PRODUCT DESCRIPTION

The Hy-Ram SOU250 Squeeze Off Unit has the facility to enable four simultaneous Squeeze points to be executed. The 'A' Frame assembly provides the hydraulic power to squeeze the pipe to the optimum compression, (squeeze gap set by pipe stop), then the Top and Bottom Beams are very simply mechanically locked together.

The Hydraulic Cylinder can then be released from the Top Beam and the Piston Rod Retracted. Then the 'A' Frame assembly can be easily disconnected from the Beams and Pipe and carried to the desired position for the next squeeze point. The 'A' Frame can now be connected to a second Beam Set and a second squeeze operation can be carried out. With four Beam Sets being supplied in the standard kit, by repeating the procedure above, four simultaneous squeeze points can be achieved

This unit is intended for Squeezing off PE pipes within the Gas industry.
No other uses are considered appropriate for this unit.

To use this unit for other purposes without first consulting Hynam Engineering Co Ltd. could lead to the unit being used for dangerous applications and may cause injury.

The information contained in this manual is to assist with the safe installation, operation, maintenance and repair of the equipment.

This information should be made available to all persons who are required to work with or on the equipment.

If in any doubt as to any aspects of this equipment, the application of this equipment or the instructions in this handbook, you should contact Hy-Ram Engineering Co Ltd. for clarification or advice.

SOU 250



SOU250 with pneumatic input / hydraulic output power unit



Pipe Stops

SOU250 – Hydraulic Squeeze Off Unit

Pipe range: 180 – 250mm diameter

Pioneering 'A' Frame design that is extremely lightweight yet very robust for 'in-trench' conditions... the Frame folds and can be locked 'flat' for ease of carrying and transportation.

The principle of operation is that the squeeze is carried out, the Top and Bottom beams are then mechanically locked together and then the 'A' Frame is detached and used in conjunction with a second beam set. Using this concept all four squeeze points are accomplished using just one 'A' Frame assembly and one Power Unit.

The squeeze is carried out, the Top and Bottom beams are then mechanically locked together and then the hydraulic cylinders are 'undipped' and used in conjunction with a second beam set. Using this concept... all four squeeze points are accomplished using just one pair of hydraulic cylinders. Available in two options... as shown, with a pneumatic input / hydraulic output power unit for easy and safe operation from a compressor, or with a hydraulic hand-pump in lieu of the power unit and 'spring return' hydraulic cylinder.

The Top Squeeze beam is fitted with 'Pipe Stops' to suit the diameter and wall thickness (SDR) of the pipe to be squeezed. These Pipe stops form a positive 'stop' between the Top and Bottom beams and hence optimise the squeeze gap in order to ensure the pipe is not over-squeezed.

Product code	Qty	Description	
089-000095		SOU 250 Manual Squeeze Off Tool (Handpump)	20
089-000055		SOU 250 Auto Hydraulic Squeeze Off Tool (Power Unit)	20
Kit Includes			
	1	'A' Frame	
	4	Top Beam Assembly (incorporating Pipe Stops)	
	4	Bottom Beam Assembly	
	1	Power Unit (Handpump not shown)	

INTRODUCTION

This manual explains about the machinery and how to use and maintain it. It is intended for Users and should be made available to all persons who are likely to use the machinery.

There are a number of Warning, Caution and Note Statements and these notify you of important points:

WARNING: Informs of hazardous conditions which may cause serious bodily harm.

CAUTION: Informs of conditions which may cause damage to equipment.

NOTE: Explains additional or helpful information.

A. DESCRIPTION

This Hy-Ram SOU250 Squeeze Off Unit has the facility to enable four simultaneous Squeeze points to be executed. The 'A' Frame assembly provides the hydraulic power to squeeze the pipe to the optimum compression, (squeeze gap set by pipe stop), then the Top and Bottom Beams are very simply mechanically locked together.

B. HEALTH AND SAFETY NOTES

GENERAL

This Squeeze off unit present dangers from trapping parts of the body between the slow moving parts and from the hydraulic oil should a hose burst. The danger zone is the immediate area around the top and bottom beams where the PE pipe is being squeezed off.

WARNING

Hazards are those involving the lifting of the unit and its component parts. There are handles on the unit that can be used as lifting points for the component parts. These are designed to lift the component only and not the unit complete. It is not envisaged that the assembled unit can be manually handled without the aid of specific mechanical assistance.

Component Weights

<i>'A' Frame</i>	<i>38Kgs</i>
<i>Top Beam</i>	<i>14.5Kgs</i>
<i>Bottom Beam</i>	<i>12 Kgs</i>
<i>Hand Pump</i>	<i>13Kgs</i>

This machine is designed to be adjusted and maintained without placing persons at risk.

C. ASSEMBLY AND USAGE

SOU 250 SQUEEZE OFF UNIT

Component List:

- 1 x Hydraulic Hand Pump
- 1 x 'A' Frame Assembly comprising Hydraulic Cylinder and Hoses
- 1 x Top Beam
- 1 x Bottom Beam
- 1 x Pair of stops diameter/SDR to suit pipe to be squeezed

Dependant on specified requirements, the equipment kit may contain up to 6 x top beams, 6 x bottom beams and 6 x pairs of stops.

Warning! These instructions should be followed in sequential order.

32 Centistoke Hydraulic Oil should be used. Use only clean new oil, Reservoir should be $\frac{3}{4}$ Full.

46 Centistoke Hydraulic Oil should be used in temperatures of 40°C or above.

OPERATING INSTRUCTIONS

1.0 PREPARATION

- 1.1 Ensure that the Top Beam is fitted with the correct pipe stops for the diameter/SDR combination to be squeezed. Attach Top Beam to Hydraulic Cylinder and tighten hex screw (B1) to lock into position.
- 1.2 Position the 'A' Frame assembly centrally over the pipe to be squeezed at the desired squeeze off point (Refer to figure 1.0). Then slide in the Bottom Beam ensuring that the bottom of the 'A' Frame locates in grooves on the underside of the Bottom Beam (Refer to figure 2.0).
Note: Squeeze off points should be carried out a minimum of 3 but preferably 5 times the pipe Diameter from any weld or electro fusion joint area.
- 1.3 Connect hydraulic hose (CON1) from A Frame to Hydraulic Hand Pump (Refer to figure 3.0).

ALWAYS ENSURE COUPLINGS ARE CLEAN BEFORE CONNECTION.

Note: The connections are Male/Female screw type quick release couplings. When making coupling connections ensure that they are fully 'made'; (i.e. Fully tightened together).

- 1.4 Open the Release valve on the Hand Pump. This will effectively release any pressure in the cylinder and ensure that it is fully retracted prior to squeezing off.
- 1.5 You are now ready to Squeeze Off.

2.0 OPERATION : SQUEEZE OFF

- 2.1 Close the Release valve on the hand pump and operate the Lever. The Top Beam will begin to travel downwards and start to squeeze the pipe. WARNING! Ensure the pipe is loaded centrally across the width of the beams.
- 2.2 Continue the operation until the pipe has fully squeezed off and the pipe stops are sandwiched tight between the Top and Bottom Beams. When the Pipe is squeezed the stops on the Top Beam will be in contact with the flats on the Bottom Beam.

- 2.3 Mechanically lock the Top Beam to the Bottom Beam by tightening the Cap Head Screws provided (C1) through the stops into the Bottom Beam. The Beams are now mechanically locked together. (Figure 5.0).

Note: The correct Bolt length should be use with the relevant stop sizes! Thread engagement should be a MINIMUM of 1.5 times the Bolt Diameter in the Bottom Beam.

- 2.4 Release the Top Beam from the A Frame by releasing hex screw (B1) and open the Release valve. The cylinder will retract leaving the Top and Bottom Beam mechanically locked together. (Refer to figure 5.0). Allow cylinder to fully retract.
- 2.5 The hydraulic hose can now be disconnected from the Hydraulic Hand Pump and then the 'A' Frame can now be expanded and disassembled from the Bottom Beam set (Refer to figure 6.0).
- 2.6 One squeeze off point is now completed. Other squeeze off points can be carried out by repeating instructions from 1.1-2.6, using additional beamsets together with the original Hydraulic Hand Pump and 'A' Frame Assembly.

3.0 OPERATION RELEASE

- 3.1 To release a squeeze off point, the 'A' Frame should be re-assembled onto the relevant Beamset.
- 3.2 Close the Release Valve on Hydraulic Hand Pump and operate Lever until the Piston Rod of the Hydraulic Cylinder reaches the Top Beam. Ensure the rod fully engages in the collar of the Top Beam. Retighten hex screw (B1). The squeeze off load is now taken up by the Hydraulic Cylinder.

WARNING! Never attempt to release a squeeze off until the load is taken up on the hydraulic cylinder.

- 3.3 Release the mechanical lock by removing the Cap Head Screws holding the Top and Bottom Beams together.
- 3.4 The squeeze off can now be released by SLOWLY opening the Release valve. The Top Beam will travel upwards and the squeeze off released.
- 3.5 Allow the Top Beam to fully retract. The Bottom Beam can then be removed and then the 'A' Frame assembly can be taken away from the pipe (Refer to figure 6.0).
- 3.6 The squeeze off release is now completed and other squeeze points can be released in the same manner repeating steps 3.1 – 3.5.

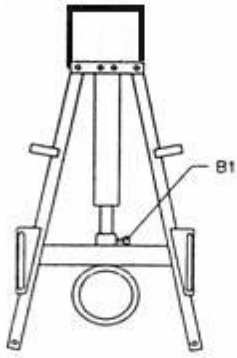


Figure 1.0 – Install Top Beam Then Lower
Onto Pipe

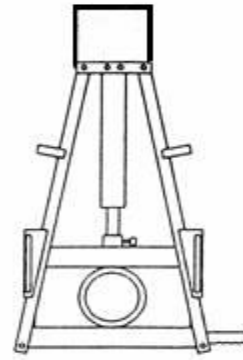


Figure 2.0 – Install Bottom Beam

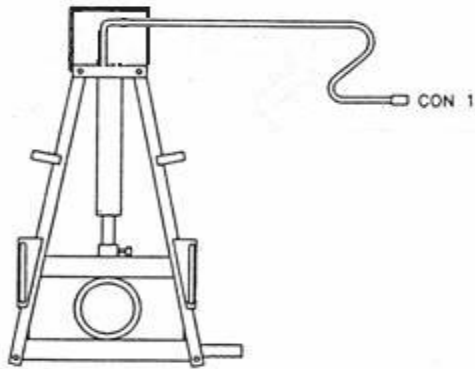


Figure 3.0 – Hydraulic Connection



Figure 4.0 – Hydraulic Squeeze Off

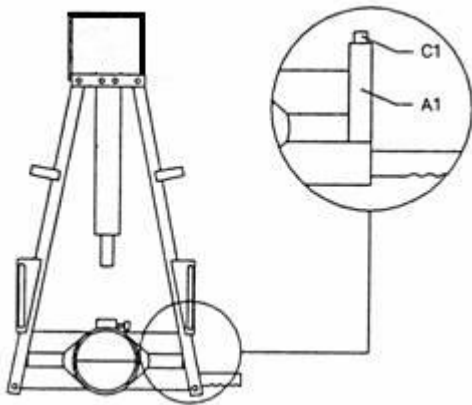


Figure 5.0 – Mechanically Lock Top Beam
To Bottom Beam

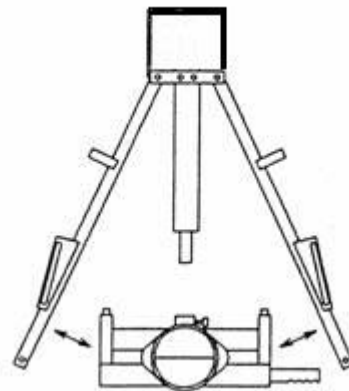


Figure 6.0 – Expand 'A' Frame & Remove
From Beam Assembly

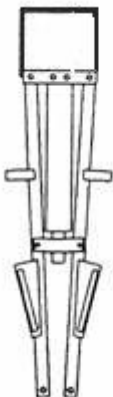


Figure 7.0 – Close 'A' Frame & Carry To
Next Beam Set

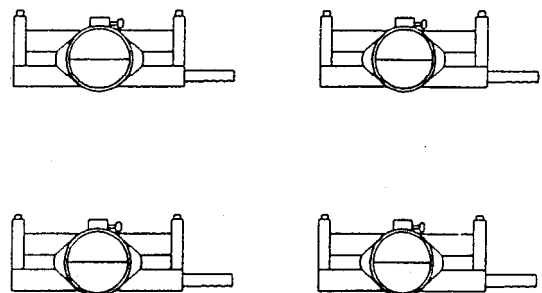


Figure 8.0 – 4 Squeeze Off Points
Completed With One Kit

D. MAINTENANCE

There are no internal wearing parts for the user to change.

Faults or problems should be reported to Hy-Ram Engineering Co Ltd stating the Serial Number and the size of the machine. Any alteration will leave the guarantee null and void

DAILY CHECKS

The Oil level
Condition of the hoses
General Condition

ANNUALLY

Oil Change
Pressure test Hand Pump

TRAINING INSTRUCTIONS

It is not envisaged that this equipment can be used by anyone, only trained operators, familiar with the gas industry should use this equipment.

EC DECLARATION OF CONFORMITY

We hereby declare that the following machinery complies with the essential health and safety requirements of the Machinery Directive 89/392/EEC, 91/368/EEC and 93/44/EEC enacted in the United Kingdom by The Supply of Machinery(Safety) Regulations 1992 (amended 1994).

Machine description: Squeeze Off Unit

Make: Hy-Ram

Type: SOU 250

Serial number: _____

Year of construction: _____

Manufactured by: Hy-Ram Engineering Co Ltd.

Pelham Street

Mansfield

Nottinghamshire

NG18 2EY

This machinery has been designed and manufactured in accordance with the following transposed harmonised European standards.

EN292 parts 1 and 2:1991 Safety of Machinery - Basic concepts, general principles for design

EN294:1992 Safety of Machinery – Safety distances to prevent danger zones being reached by upper limbs.

EN349:1993 Safety of Machinery – Minimum gaps to avoid crushing of parts of the human body.

BSEN982:1996 Safety of Machinery – Safety requirements for fluid power systems and their components, Hydraulics.

GIS/PL2-7:2006

A technical construction file for this machinery is retained at the following address:

Pelham Street

Mansfield

Nottinghamshire

NG18 2EY

Signed:_____

Date:_____

Name:_____

Position:_____

Being the responsible person appointed by the manufacturer, and employed by Hy-Ram Engineering Co Ltd.

Certificate of calibration.

- This product has been inspected and tested in accordance with the ISO9001 quality control systems and procedures in place at Hynam Engineering Co Ltd.
- This product has no calibration period, periodic, safety inspections should be carried out by the operator if in any doubt please contact the manufacturer for further information

Decommissioning & Disposal Instructions

These give the instructions for decommissioning and disposal of the equipment and confirm how it is to be taken out of service safely, in respect of the Essential Health and Safety Requirements.

- If a Hynam tool has reached the end of its useful working life and cannot be refurbished it must be disposed of through a licensed scrap or waste disposal facility. Alternatively, a reverse engineering company could be used to strip the equipment for recycling purposes.
- Disposal is the responsibility of the Customer this can also be achieved by returning the product back to the manufacturer.



Warranty Information.

1. Extent of Warranty.

- (a) Hy-Ram Engineering Co Ltd warrants to the end-user customer that its products will be free from defects in materials and workmanship, for six months after the date of purchase by the end-user customer, subject to providing proof of purchase.
- (b) If Hy-Ram Engineering Co Ltd receives, during the warranty period, notice of a defect in product which is covered by this warranty, Hy-Ram Engineering Co Ltd shall either repair or replace the product, at its option. Any replacement product may be either new or like-new, provided that it has functionality at least equal to that of the product being replaced.
- (c) All warranty work will be carried out by Hy-Ram Engineering Co Ltd unless otherwise agreed. On-site warranty and repair or replacement services are available from authorised Hy-Ram Engineering Co Ltd service facilities world-wide.
- (d) Customers shall prepay shipping charges for products returned to Hy-Ram Engineering Co Ltd for warranty service, and Hy-Ram Engineering Co Ltd will charge for return of the products back to the customer.
- (e) This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from country to country in the world.

Pre-conditions for Warranty Application.

Hy-Ram Engineering Co Ltd' warranty covers only those defects which arise as a result of normal use of the product, and this warranty shall only apply in the following circumstances:

- (a) All the instructions contained in the operating manual have been complied with
- (b) And none of the following apply:

- (i) Improper or inadequate maintenance;
- (ii) Physical abuse;
- (iii) Unauthorised modification, misuse or any use not in accordance with the operating manual and good industry practice;
- (iv) Operation outside the products specifications;
- (v) Improper site preparation or maintenance; and
- (vi) Faulty pipe or fittings.

Limitations of Warranty.

- (a) Hy-Ram Engineering Co Ltd does not warrant the operation of any product to be uninterrupted or error free.
- (b) Hy-Ram Engineering Co Ltd makes no other warranty of any kind, whether express or implied, with respect to its products. Hy-Ram Engineering Co Ltd specifically disclaims the implied warranties of satisfactory quality and fitness for a particular purpose.
- (c) To the extent that this warranty statement is inconsistent with the law of the locality where the customer uses the product, this warranty statement shall be deemed modified by the minimum necessary to be consistent with such local law.
- (d) To the extent allowed by local law, the remedies provided in this warranty statement are the customer's sole and exclusive remedies.
- (e) This tool has been designed for the range of fittings available at the time of its design and development. Hy-Ram Engineering Co Ltd can accept NO liability for the unit's ability or otherwise to work with new or different fittings that subsequently appear in the market place.

Please complete this information and keep it safely with your proof of purchase receipt.
You will require it for any warranty claim.

Where purchased

Date of purchase

Name & address
Of purchaser

.....

.....

Type of tool

Serial number

For Service and repair please contact:

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NG18 2EY
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